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APPLICATION NO.	F	ILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	. CONFIRMATION NO.		
10/631,874		07/31/2003	Indranil Nandi	G-33302P1	1795		
1095	7590	11/02/2006		EXAM	EXAMINER		
NOVARTI	_	I FORMAL PROPER	HENRY, MICHAEL C				
CORPORATE INTELLÉCTUAL PROPERTY ONE HEALTH PLAZA 104/3				ART UNIT	PAPER NUMBER		
		IJ 07936-1080	•	1623			
				DATE MAIL ED: 11/02/200	4		

Please find below and/or attached an Office communication concerning this application or proceeding.

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			Application	n No.	Applicant(s)				
Office Action Summary			10/631,874	<u> </u>	NANDI ET AL.				
			Examiner		Art Unit				
			Michael C.	-	1623	·			
Period for	The MAILING DATE of this commun r Reply	nication app	ears on the	cover sheet with the c	orrespondence ac	idress			
WHICI - Extens after S - If NO I - Failure Any re	CRTENED STATUTORY PERIOD F CHEVER IS LONGER, FROM THE M Isions of time may be available under the provisions ISIX (6) MONTHS from the mailing date of this comn period for reply is specified above, the maximum st e to reply within the set or extended period for reply eply received by the Office later than three months and patent term adjustment. See 37 CFR 1.704(b).	MAILING DA s of 37 CFR 1.13 munication. statutory period wi y will, by statute,	ATE OF THI 36(a). In no even vill apply and will cause the applic	S COMMUNICATION at, however, may a reply be time expire SIX (6) MONTHS from the cation to become ABANDONEL	I. sely filed the mailing date of this c (35 U.S.C. § 133).				
Status			•						
1) 又	Responsive to communication(s) file	ed on <i>08/14</i>	V06						
·	Responsive to communication(s) filed on <u>08/14/06.</u> This action is FINAL . 2b) This action is non-final.								
			secution as to the	a marite is					
•	Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.								
		100 unusi =,	n punto qua	yio, 1000 C.D. 11, 10					
Dispositio	on of Claims								
•	Claim(s) <u>1-20</u> is/are pending in the application.								
4	4a) Of the above claim(s) is/are withdrawn from consideration.								
5) 🗌 (Claim(s) is/are allowed.								
6)⊠ (Claim(s) <u>1-20</u> is/are rejected.								
7) 🗌 (Claim(s) is/are objected to.								
8) 🗌 (Claim(s) are subject to restric	ction and/or	election red	quirement.					
Applicatio	on Papers								
9)∐ T	The specification is objected to by the	ie Examiner	·.						
10)∐ T	The drawing(s) filed on is/are:	: a) <u>□</u> acce	pted or b)□	objected to by the E	xaminer.				
/	Applicant may not request that any object	ction to the d	frawing(s) be	held in abeyance. See	37 CFR 1.85(a).				
F	Replacement drawing sheet(s) including	g the correction	on is required	f if the drawing(s) is obj	ected to. See 37 Cl	FR 1.121(d).			
11)[T	The oath or declaration is objected to	o by the Exa	aminer. Note	e the attached Office	Action or form P7	ГО-152.			
Priority ur	nder 35 U.S.C. § 119								
a) <u></u>	Acknowledgment is made of a claim All b) Some * c) None of:			• •	-(d) or (f).				
	1. Certified copies of the priority documents have been received.								
	2. Certified copies of the priority documents have been received in Application No								
3	3. Copies of the certified copies of the priority documents have been received in this National Stage								
	application from the International Bureau (PCT Rule 17.2(a)).								
* See the attached detailed Office action for a list of the certified copies not received.									
Attachment((a)			•					
	of References Cited (PTO-892)		4	l) Interview Summary (PTO-413)				
2) 🔲 Notice	of Draftsperson's Patent Drawing Review (P	'TO-948)	Paper No(s)/Mail Date						
	ation Disclosure Statement(s) (PTO/SB/08) No(s)/Mail Date		_	i) Notice of Informal Paii) Other:	itent Application				
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DETAILED ACTION

The following office action is a responsive to the Amendment filed, 08/14/06.

The amendment filed 08/14/06 affects the application, 10/631,874 as follows:

1. The responsive to applicants' amendments is contained herein below.

Claims 1-20 are pending in the application

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Domet et al. (US 4,929,605) in combination with Maekawa et al. (US 4,176,175).

In claim 1, applicant claims "A pharmaceutical composition consisting essentially of fexofenadine or a pharmaceutical acceptable acid addition salt thereof, about 10 wt. % to about 70 wt. % of lactose, and about 1 wt. % to about 40 wt. % of a low-substituted hydroxypropyl cellulose, wherein the weight percents are based on the total weight of the pharmaceutical composition." Dependent claims 2,6-9, 12, 13 are drawn to specific wt. % and mg of the components of said composition. Claims 14-17 are drawn to low-substituted hydroxypropyl cellulose of specific average particle sizes and wt. %.

Domet et al. disclose a pharmaceutical composition in solid unit dosage form containing a therapeutically effective amount of a piperidinoalkanol compound, such as fexofenadine and

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terfenadine, or a pharmaceutically acceptable salt thereof, a pharmaceutically acceptable nonionic or cationic surfactant, and a pharmaceutically acceptable carbonate salt. Furthermore, Domet et al. disclose that said piperidinoalkanol derivatives (compounds) which are antihistamines, antiallergic agents and bronchodilators, are in general, only minimally soluble in water and therefore the therapeutically inactive ingredients in a pharmaceutical composition containing one or more of these compounds are very important in providing for their efficient and immediate absorption and bioavailability after oral administration (see col. 1, lines 11-33). It should be noted that piperidinoalkanol compounds fexofenadine and terfenadine, which are useful as antihistamines, antiallergic agents and bronchodilators are quite similar in structure, differing only by a substituent (i.e. methyl group as opposed to a carboxyl group).

The difference between applicant's claimed composition and the composition disclosed by Domet et al. is that applicant's composition contains lactose and low-substituted hydroxypropyl cellulose.

Maekawa et al. disclose that solid drugs preparation (dosage form) such as tablets, granules and pill that are coated with sugars containing low-substituted hydroxypropyl cellulose improves the disintegration time (see abstract). Furthermore, Maekawa et al. disclose that sugars in general such as sucrose (which like lactose is a disaccharide) can be used (see col. 2, lines 23-37).

It would have been obvious to one having ordinary skill in the art, at the time the claimed invention was made, in view of Domet et al. and Maekawa et al., to have prepared a pharmaceutical composition comprising fexofenadine, low-substituted hydroxypropyl cellulose and lactose and to be used as an antihistamine composition, since Domet et al. disclose that there

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is a need for the immediate absorption and bioavailability of piperidinoalkanol compounds (derivatives) including fexofenadine and terfenadine (after oral administration) and Maekawa et al. disclose that specific components such low-substituted hydroxypropyl cellulose and sugars such as lactose and improves the rapid disintegration and favorable release (i.e., bioavailability) of drugs.

One having ordinary skill in the art would have been motivated in view of Domet et al. and Maekawa et al., to have prepared a pharmaceutical composition comprising fexofenadine, lactose and low-substituted hydroxypropyl cellulose to be used as an antihistamine composition, since Domet et al. disclose that there is a need for the immediate absorption and bioavailability of piperidinoalkanol compounds (derivatives) including fexofenadine and terfenadine (after oral administration) and Maekawa et al. disclose that specific components such low-substituted hydroxypropyl cellulose and sugars such as lactose and improves the rapid disintegration and favorable release (i.e.,bioavailability) of drugs. It should be noted that the use of specific quantities (e.g., mg), wt. % and type of low-substituted hydroxypropyl cellulose of said composition depends on the need, such as the individual to which this composition is administered.

Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Domet et al. (US 4,929,605) in combination with Obara et al. (US 6,380,381 B1).

In claim 18, applicant claims "A method of preparing a pharmaceutical composition consisting essentially of fexofenadine or a pharmaceutical acceptable acid addition salt thereof, about 10 wt. % to about 70 wt. % of lactose, and about 1 wt. % to about 40 wt. % of a low-

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substituted hydroxypropyl cellulose, wherein the weight percents are based on the total weight of the pharmaceutical composition, said method comprising:

- (a) mixing fexofenadine, lactose, low-substituted hydroxypropyl cellulose, and optionally one or more excipients to form a premix;
- (b) adding a solvent and optionally a surfactant to the premix formed in Step (a) to form a wet granulation; and
- (c) drying the wet granulation to form dried granules;
- (d) optionally milling the dried granules; and

Domet et al. disclose a method of preparing a pharmaceutical composition in solid unit dosage form containing a therapeutically effective amount of a piperidinoalkanol compound, such as fexofenadine and terfenadine comprising mixing said piperidinoalkanol compound with a pharmaceutically acceptable nonionic or cationic surfactant and a pharmaceutically acceptable carbonate salt and forming granules which are dried and milled to uniform size (see col. 4, lines 50-64). Furthermore, Domet et al. disclose that said piperidinoalkanol derivatives (compounds)

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which are antihistamines, antiallergic agents and bronchodilators, are in general, only minimally soluble in water and therefore the therapeutically inactive ingredients in a pharmaceutical composition containing one or more of these compounds are very important in providing for their efficient and immediate absorption and bioavailability after oral administration (see col. 1, lines 11-33). It should be noted that the piperidinoalkanol compounds fexofenadine and terfenadine, are useful as antihistamines, antiallergic agents and bronchodilators.

The difference between applicant's method and the method disclosed by Domet et al. is that applicant's uses low-substituted hydroxypropyl cellulose in their composition.

Obara et al. disclose that low-substituted hydroxypropyl cellulose exhibits good granulation characteristics and tablet properties (i.e. improving bioavailability) (see abstract). Furthermore, Obara et al. exemplify the preparation of a good granulation composition comprising the low-substituted hydroxypropyl cellulose and lactose (see col. 4, line 45-56). Also, Obara et al. disclose that for the low-substituted hydroxypropyl cellulose of the present invention, that tablet may be prepared that contain, for example, active ingredients, lubricants (e.g., magnesium stearate), excipients (e.g., corn starch and lactose), and other disintegrators and binders (see col. 3, line 64 to col. 4, line 4). Obara et al disclose a low-substituted hydroxypropyl cellulose having a hydroxypropoxyl content in the range of 5.0 to 16.0% by weight and an apparent average degree of polymerization in the range of 350 to 700 (see abstract). In addition, Obara et al. disclose that low-substituted hydroxypropyl cellulose, its degree of substitution provides good granulation such that it improves the disintegration properties of tablets (i.e. improving bioavailability) (see col. 1, lines 21-59).

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It would have been obvious to one having ordinary skill in the art, at the time the claimed invention was made, in view of Domet et al. and Obara et al., to have used the method of Domet et al. to prepare a pharmaceutical composition comprising fexofenadine, low-substituted hydroxypropyl cellulose and lactose to be used as an antihistamine composition, since Domet et al. disclose that there is a need for the immediate absorption and bioavailability of piperidinoalkanol compounds (derivatives) including fexofenadine (after oral administration) and Obara et al. disclose that a good granulation such as low-substituted hydroxypropyl cellulose and lactose improves the bioavailability (i.e. rapid disintegration and favorable release) of drugs.

One having ordinary skill in the art would have been motivated in view of Domet et al. and Obara et al., to have used the method of Domet et al. to prepare a pharmaceutical composition comprising fexofenadine, low-substituted hydroxypropyl cellulose and lactose to be used as an antihistamine composition, since Domet et al. disclose that there is a need for the immediate absorption and bioavailability of piperidinoalkanol compounds (derivatives) including fexofenadine (after oral administration) and Obara et al. disclose that a good granulation such as low-substituted hydroxypropyl cellulose and lactose improves the bioavailability (i.e. rapid disintegration and favorable release) of drugs. It should be noted that the use of specific quantities (e.g., mg), wt. % and type of low-substituted hydroxypropyl cellulose of said composition depends on the need, such as the individual to which this composition is administered. In addition, the use of specific mills such as a low shear mill is commonly used in the art in the preparation of such oral tablet formulations, and is well with the purview of a skill artisan does not appear to alter the said composition formed.

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Response to Argument

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Henry whose telephone number is 571-272-0652. The examiner can normally be reached on 8.30am-5pm; Mon-Fri. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia A. Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael C. Henry

Shaojia Anna Jiang, Ph.D. Supervisory Patent Examiner

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